

**CALIFORNIA DEPARTMENT OF TRANSPORTATION
DUTY STATEMENT**

CLASSIFICATION TITLE	DISTRICT/DIVISION/OFFICE	
Transportation Engineering Technician	DES-METS Office of Roadway Materials Testing	
WORKING TITLE	POSITION NUMBER	EFFECTIVE DATE
Technician	559-321-3175-004	June 2013

As a valued member of the Caltrans team, you make it possible for the Department to improve the mobility across California by being innovative and flexible; reporting to work regularly and on time; working cooperatively with team members and others; and treating others fairly, honestly and with respect. Your efforts are important to each member of the team, as well as those we serve.

GENERAL STATEMENT

Under the direction and supervision of a Senior Transportation Engineer (the Branch Chief of the Office of Roadway Materials Testing), the Transportation Engineering Technician (TET) is responsible for the testing and reporting of highway and bridge skid tests statewide. The use of towed-trailer skid testing equipment per ASTM E274, the use of portable skid testing equipment per California Test 342, and the use of computers are all required. The TET compiles raw data taken from the skid testing fieldwork, inputs the data into a database or spreadsheet, and then prepares final skid test reports. The TET performs minor mechanical repairs, performs maintenance, cleans, troubleshoots, and calibrates the skid testing equipment. The physical requirements include manual dexterity to use computers and hand tools, sitting, lifting, walking, bending, twisting, kneeling, standing, and driving for extended period. The work environment includes both office and field conditions. The TET must have and maintain a valid California Driver's license. Overnight travel may be required up to 75% of the time per month.

TYPICAL DUTIES

Percentage Job Description

Essential (E)/Marginal (M)

- 45% (E) Drives a test vehicle, operates a portable skid testing unit throughout California, and performs skid tests on mainline highways, ramps, connectors, or bridges as part of contract compliance testing. Calibrates skid tester, performs tests, and compiles raw data taken from the portable skid tester following test method CT 342. Generates corrected skid resistance data using conversion tables and charts, and report findings using computer application programs. Occasionally performs correlation studies. Performs minor repairs, troubleshoots, cleans, and maintains skid testing equipment.
- 25% (E) Drives a test vehicle or operates a towed-trailer skid testing unit throughout California, and performs skid tests on mainline highways as part of the statewide highway skid resistance inventory. Performs tests, compiles computerized raw data taken from towed-trailer skid testers following test method ASTM E274.

Generates corrected skid numbers using on-board computer programs that collect pavement skid resistance data, and report findings, using computer application programs. Occasionally performs correlation studies and assists with the calibration of the skid testing unit. Performs minor repairs, troubleshoots, cleans, and maintains skid testing equipment.

- 20% (E) Prepares accurate, standardized, computer generated skid resistance memoranda and data reports in a timely manner. Prepares and maintains accurate skid resistance electronic records, backs up data onto disks, and files hard copies of skid test reports and/or inventory printouts. Checks co-worker's reports for accuracy and standardization. Arranges for regular maintenance of test vehicles and/or major repairs of vehicles or equipment. Performs general housekeeping of the unit's storage facilities, office space, and calibration bay. Maintains inventory of tools, equipment, and supplies.
- 10% (M) Performs miscellaneous office duties such as maintaining file systems, checking database records, and providing database outputs for various skid-testing studies. Researches files for special skid tests on highway ramps, connectors, and street intersections as requested by District Traffic Safety investigation engineers, Legal staff, Maintenance staff, and/or others.

SUPERVISION EXERCISED OVER OTHERS

This position does not supervise other employees.

KNOWLEDGE, ABILITIES AND ANALYTICAL REQUIREMENTS

- ☐ Must have a general knowledge of highway construction techniques and the materials associated with highway construction and maintenance.
- ☐ Must have a general knowledge of vehicle and equipment maintenance and care.
- ☐ Must have a good working knowledge of math and computer software applications.
- ☐ Must be capable of working effectively with a multi-disciplinary technical staff, and must be capable of communicating effectively, both orally and in writing, in the English language using tools such as e-mail, a telephone, or in-person conversations.
- ☐ Must be capable of completing training assignments, and subsequently training others.
- ☐ Must be capable of learning and following test methods for skid testing. Must be capable of obtaining qualifications in CT 114 and CT 342.

- ☐ Must be capable of performing minor equipment repairs and maintenance, and capable of cleaning the equipment.
- ☐ Must be capable of using computer applications to collect and report test data (e.g., Lotus Notes for e-mail, and the Microsoft Office Suite of MS-Word, MS-Excel, MS-PowerPoint, and MS-Access).
- ☐ The work performed in this Branch requires the TET to analyze field situations within traffic lane closures, or while driving for an extended period on state highways.
- ☐ This work requires the TET to be safety-conscience, and to be responsible for themselves or co-workers, and the equipment.
- ☐ The work requires the TET to be aware of his/her surroundings at all times, to analyze the safety aspects of each field condition, and to take appropriate action.
- ☐ The TET must follow the appropriate Caltrans safety requirements and comply with the requirements of the Caltrans Safety Manual.
- ☐ The TET must also analyze the data upon collection, determine the validity and accuracy of the data, and ascertain whether to proceed with testing or repeat a previous test before leaving the location of the test.

CONSEQUENCE OF ERROR/RESPONSIBILITY FOR DECISIONS

The TET position is responsible for the collection and the accuracy of reporting state highway skid testing data. Failure to properly measure, record, and report skid testing data in a timely manner may result in the inaccurate reporting of highway conditions. Irresponsible actions and reporting by the TET may result in expensive claims against the State of California.

PUBLIC AND INTERNAL CONTACTS

The TET position has some contact with the multi-disciplinary staff within Caltrans and occasionally with contractors and local agencies. The scheduling coordinator is generally the primary office contact with the skid testing requestors, and the TET is the skid test representative in the field. No official contact with the public is expected; however, the TET spends a considerable amount of time amongst the public while conducting fieldwork on state highways. Occasional contact with out of state agencies during calibration and correlation work is expected. Professional conduct is required at all times.

WORK ENVIRONMENT

While in the office generating skid test reports, the TET will be working in a climate-controlled office under artificial lighting. The TET will be required to sit and work with a computer for extended periods. The TET will be assigned time-dated tasks within his/her work assignments, and have his/her work reviewed for quality by the supervisor or an M&REA.

The TET will be required to travel using state vehicles and work outdoors. The TET may be exposed to dirt, noise, uneven surfaces, highway traffic, construction activities, and/or extreme heat or cold. Towed-trailer skid testing from within a testing vehicle under natural outdoor conditions will be required on mainline routes, ramps and connectors while traveling within live traffic or under traffic control situations. Portable skid testing within a traffic lane closure under natural outdoor conditions will be required on highway and bridge surfaces while working close to traffic. The TET will be required to wear personal protective equipment while in the field.

The TET may be required to drive a skid-testing unit to Texas (out of state travel) and assist in the calibration and correlation work of the skid-testing unit. The TET may be required to spend up to 2 weeks away from home during the out of state calibration and correlation trip. This travel is in addition to the travel required for the performance of the job.

PHYSICAL, MENTAL AND EMOTIONAL REQUIREMENTS

The TET is required to sit and work with a computer for extended periods of time using a keyboard, mouse, and monitor to generate skid test reports while in the office or in the field. The TET is required to use a facsimile machine, photo copying machine, and a telephone. Simple grasping and manually dexterity is required to manipulate small objects. The TET is required to repetitively use his/her hands for keyboard usage, mouse usage, or small tool grasping and usage. The TET is required to repetitively use hand controls, foot controls, and be capable of twisting his/her neck while driving state vehicles. The TET needs hand/eye coordination with manual dexterity to quickly type information on a computer keyboard and view a computer monitor while operating a skid test unit. Sitting, walking, kneeling, crouching, climbing in and out of vehicles, bending, twisting, and standing for extended periods of time are required to perform skid testing functions. When the TET encounters uneven terrain while working on pavement surfaces, he/she must maintain physical agility while working in the proximity of the motoring public. The TET is required to lift and carry tools, supplies, or materials up to 50 pounds.

The TET will be required to sustain the mental activity needed for driving extended periods of time, working in the field, report writing, checking data, problem solving, data analysis, and reasoning. The TET will be required to maintain mental awareness while working in the proximity of the motoring public and performing skid tests. The TET will be required to perceive the needs and problems of setting up field equipment and make appropriate decisions with respect to the applicable test method.

The TET will be required to develop and maintain cooperative working relationships with co-workers, his/her scheduling coordinator, his/her supervisor, and others. The TET will be required to meet and deal tactfully with other Caltrans staff and/or others, as needed, in the performance of his/her job functions. The TET will be required to respond appropriately to difficult situations and take the appropriate actions when necessary. The TET will be required to travel statewide up to 75% of the time, as a driver, operator, or passenger in state vehicles, or as a passenger on a commercial airline using professional conduct at all times.

I have read and understand the duties listed above and can perform them with/without reasonable accommodation. (If you believe you may require reasonable accommodation, please discuss this with the hiring supervisor. If you are unsure whether you require reasonable accommodation, inform the hiring supervisor who will discuss your concerns with the Reasonable Accommodation Coordinator.)

EMPLOYEE

DATE

I have discussed the duties with and provided a copy of this duty statement to the employee named above.

SUPERVISOR

DATE